

**50 Hz**



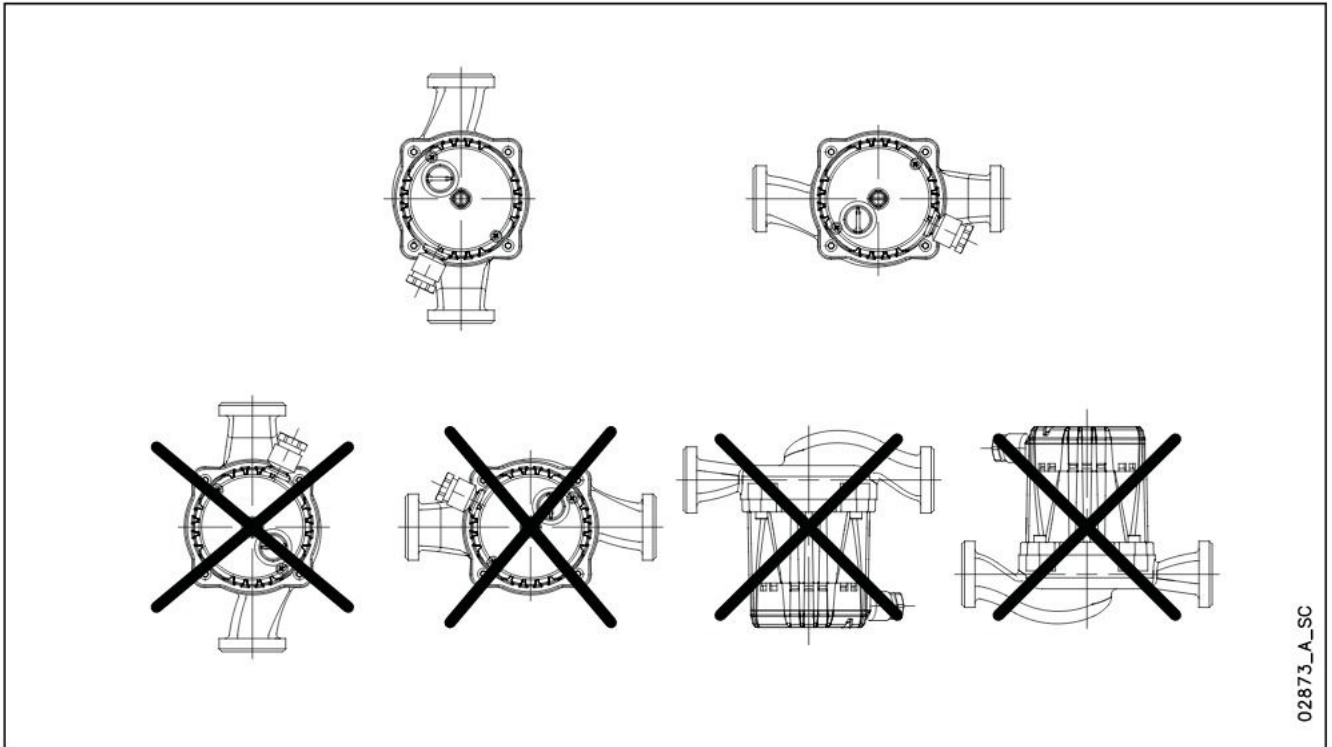
# TLCN, TLCHN Series

WET ROTOR CIRCULATORS  
FOR SANITARY SYSTEMS

Cod. 191027201 Rev. B Ed.12/2014

 **LOWARA**  
a xylem brand

**TCLN, TLCHN SERIES  
INSTALLATION POSITIONS**



02873\_A\_SC

## Sanitary Circulators

### MARKET SECTORS

RESIDENTIAL.

### APPLICATIONS

- Circulation of sanitary hot water.

## TLCN Series



### SPECIFICATIONS

#### PUMP

- **Flow rate:** up to 4 m<sup>3</sup>/h.
- **Head:** up to 6 m.
- **Temperature of pumped liquid:** +2°C ÷ +110°C (recommended up to 65°C). Avoid condensation and ice formation.
- **Maximum operating pressure:** 10 bar (PN 10).
- **Impeller:** made of composite material.
- **Wear ring:** ceramic.

#### MOTOR

- Wet rotor type, with bearings lubricated by the pumped liquid. Axial and radial bearings made of ceramic.
- Single-phase 230 V 50 Hz power supply. Terminal box axially integrated in the motor.
- Three speed hand selector motor.
- **Insulation class** 180 (H).
- **Protection class** IP 44.

### CONSTRUCTION CHARACTERISTICS

- Electric circulator pumps for sanitary hot water circulation, at a recommended maximum temperature of 65°C, maximum hardness of 25° f (14°dH) and maximum viscosity of 10 mm<sup>2</sup>/s.
- Stainless steel pump body with 1", 1" ¼ and 1" ½ threaded connections.
- According to EN standards 60335-1, 60335-2-51, 55014-1, 55014-2.

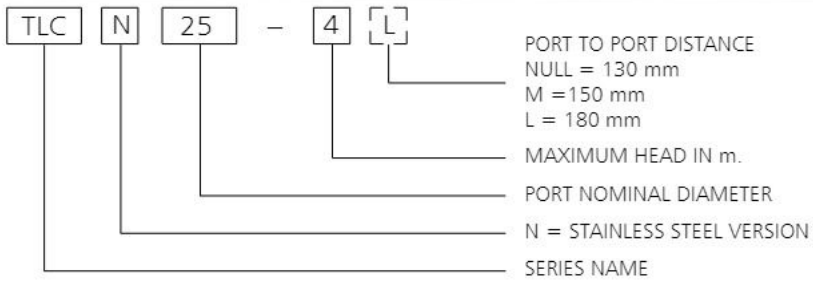
### ACCESSORIES

- Pipe unions.
- Insulation shell.

### INSTALLATION

- Suitable for installation in horizontal or vertical piping, in any position provided that motor axis is horizontal.

## TLCN SERIES IDENTIFICATION CODE



EXAMPLE : TLCN 25-4L

TLC series circulator, stainless steel N version, port nominal diameter = 25, max head= 4 m, with port to port distance of 180 mm.

## TABLE OF MATERIALS

PART	MATERIAL
Pump body	Stainless steel
Impeller	Composite material
Shaft	Ceramic
Inner jacket	Stainless steel
Wear ring	Ceramic
Bearings	Ceramic
Gaskets	EPDM

tfcn-2p50-en\_a\_tm

### Regulations (EC) n. 641/2009 and (EU) n. 622/2012 – Annex I – point 2 (Product information requirements)

- a) Energy efficiency index: note not applicable to these products.
- b) "The benchmark for most efficient circulators is  $EI \leq 0,20$ ": note not applicable to these products.
- c) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
- d) Information for circulators specifically designed to potable water uses: "This circulator is suitable for drinking water only".

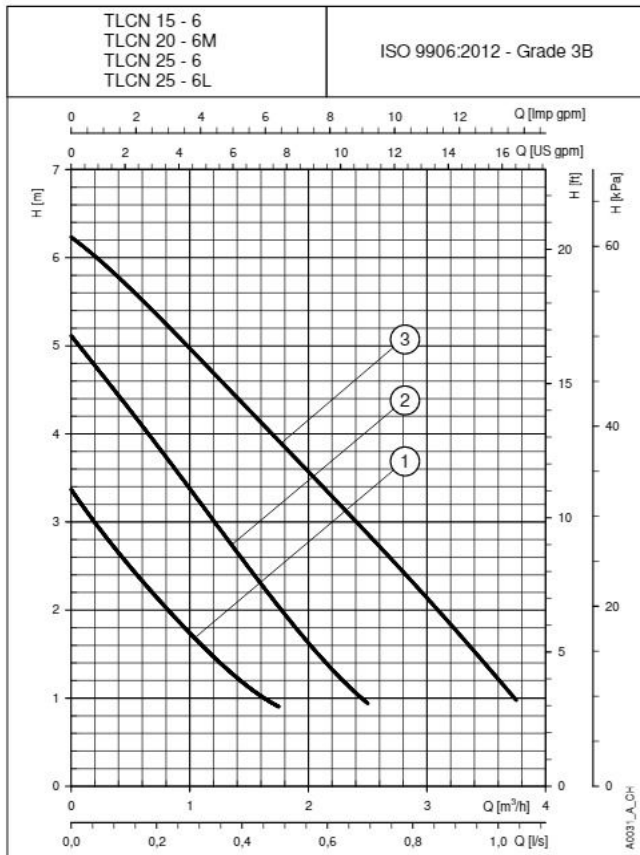
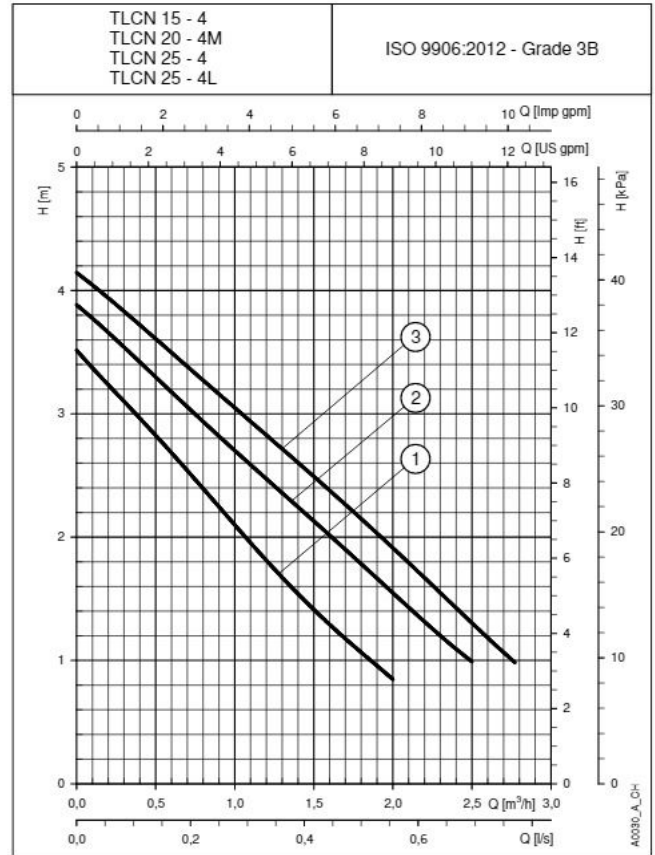
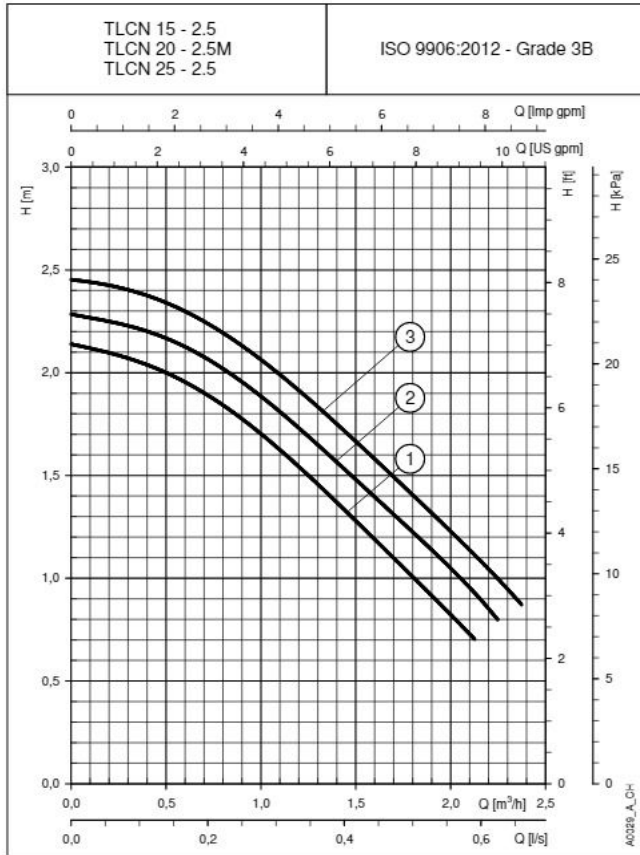
## TLCN SERIES HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	MAXIMUM ABSORBED POWER	MAXIMUM ABSORBED CURRENT	CAPACITOR		SPEED	Q = DELIVERY								
						l/s 0	0,2	0,3	0,4	0,5	0,7	0,8	1,0	1,2
						m <sup>3</sup> /h 0	0,6	1,2	1,5	1,8	2,4	3,0	3,6	4,2
230V 50Hz	W	A	$\mu$ F	V		H = TOTAL HEAD METRES COLUMN OF WATER								
TLCN 15-2.5	27	0,12	1,5	400	1	2,1	2,0	1,5	1,3	1,0				
TLCN 20-2.5M	32	0,14			2	2,3	2,1	1,7	1,5	1,2				
TLCN 25-2.5	35	0,15			3	2,5	2,3	1,9	1,7	1,4	0,8			
TLCN 15-4	33	0,14	1,5	400	1	3,5	2,7	1,8	1,4	1,1				
TLCN 20-4M	39	0,17			2	3,9	3,2	2,5	2,1	1,8	1,1			
TLCN 25-4 (L)	44	0,19			3	4,1	3,5	2,8	2,5	2,1	1,4			
TLCN 15-6	43	0,19	2,0	400	1	3,4	2,3	1,5	1,1	0,9				
TLCN 20-6M	65	0,28			2	5,1	4,1	3,0	2,5	2,0	1,1			
TLCN 25-6 (L)	80	0,34			3	6,2	5,5	4,7	4,3	3,9	3,0	2,1	1,2	

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

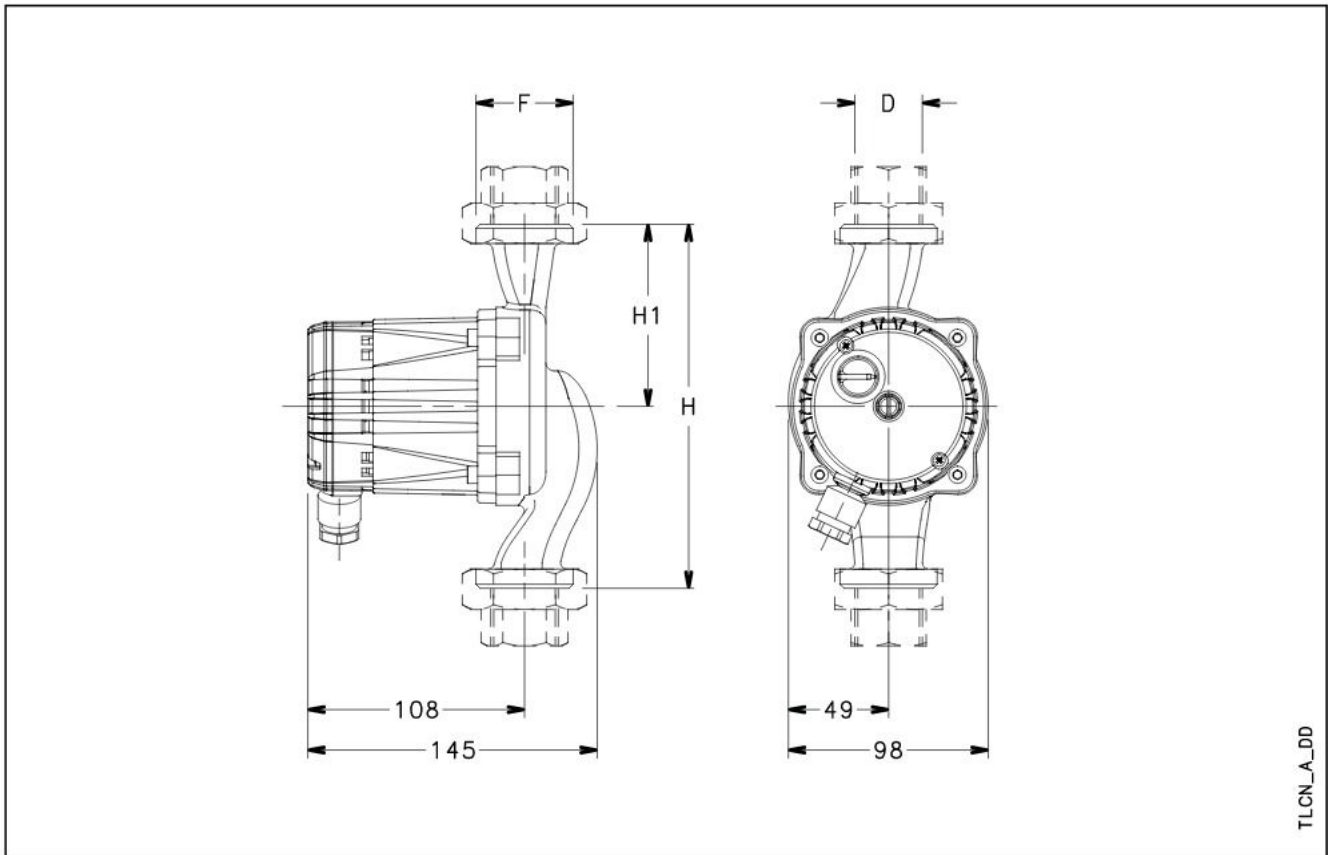
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## TLCN SERIES SINGLE-PHASE OPERATING CHARACTERISTICS



These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## TLCN SERIES DIMENSIONS AND WEIGHTS



## DIMENSIONS AND WEIGHTS TABLE

PUMP TYPE	DIMENSIONS (mm)					DN	WEIGHT kg
	H	H1	D	F			
TLCN 15-2.5	130	65	1/2"	G 1"		15	2,7
TLCN 20-2.5M	150	75	3/4"	G 1 1/4"		20	2,7
TLCN 25-2.5	130	65	1"	G 1 1/2"		25	2,7
TLCN 15-4	130	65	1/2"	G 1"		15	2,7
TLCN 20-4M	150	75	3/4"	G 1 1/4"		20	2,7
TLCN 25-4	130	65	1"	G 1 1/2"		25	2,7
TLCN 25-4L	180	90	1"	G 1 1/2"		25	2,8
TLCN 15-6	130	65	1/2"	G 1"		15	2,7
TLCN 20-6M	150	75	3/4"	G 1 1/4"		20	2,7
TLCN 25-6	130	65	1"	G 1 1/2"		25	2,7
TLCN 25-6L	180	90	1"	G 1 1/2"		25	2,8

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## Sanitary Circulators

**MARKET SECTORS**  
SANITARY LIGHT COMMERCIAL.

### APPLICATIONS

- Circulation of sanitary hot water in high flow/high head installations.

## TLCHN Series



### SPECIFICATIONS

#### PUMP

- **Flow rate:** up to 12 m<sup>3</sup>/h.
- **Head:** up to 12 m.
- **Temperature of pumped liquid:** +2°C ÷ +110°C (recommended up to 65°C). Avoid condensation and ice formation.
- **Maximum operating pressure:** 10 bar (PN 10).
- **Impeller:** made of composite material.
- **Wear ring:** ceramic.

#### MOTOR

- Wet rotor type, with bearings lubricated by the pumped liquid. Axial and radial bearings made of ceramic.
- Single-phase 230 V 50 Hz power supply. Terminal box axially integrated in the motor.
- Three speed hand selector motor.
- **Insulation class** 180 (H).
- **Protection class** IP 44.

### CONSTRUCTION CHARACTERISTICS

- Electric circulator pumps for sanitary hot water circulation, at a recommended maximum temperature of 65°C, maximum hardness of 25° f (14°dH) and maximum viscosity of 10 mm<sup>2</sup>/s.
- Stainless steel pump body with 1" ¼ and 1" ½ threaded connections.
- According to EN standards 60335-1, 60335-2-51, 55014-1, 55014-2.

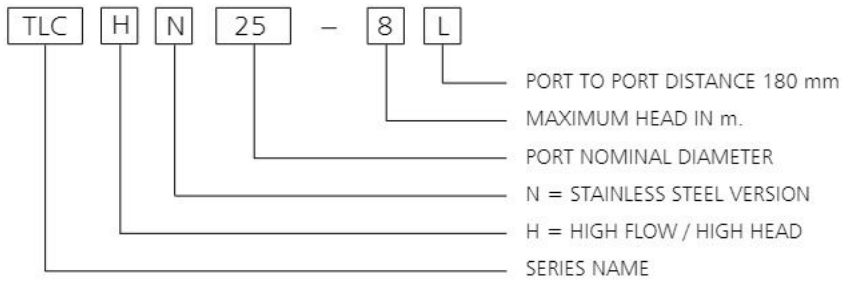
### ACCESSORIES

- Pipe unions.
- Insulation shell.

### INSTALLATION

- Suitable for installation in horizontal or vertical piping, in any position provided that motor axis is horizontal.

## TLCHN SERIES IDENTIFICATION CODE



EXAMPLE : TLCHN 25-8L

TLC series circulator, high flow/head H version, stainless steel N version, port nominal diameter = 25, max head= 8 m, with port to port distance of 180 mm.

## TABLE OF MATERIALS

PART	MATERIAL
Pump body	Stainless steel
Impeller	Composite material
Shaft	Ceramics
Inner jacket	Stainless steel
Wear ring	Ceramics
Bearings	Ceramics
Gaskets	EPDM

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### Regulations (EC) n. 641/2009 and (EU) n. 622/2012 – Annex I – point 2 (Product information requirements)

- a) Energy efficiency index: note not applicable to these products.
- b) "The benchmark for most efficient circulators is  $EEL \leq 0,20$ ": note not applicable to these products.
- c) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
- d) Information for circulators specifically designed to potable water uses: "This circulator is suitable for drinking water only".

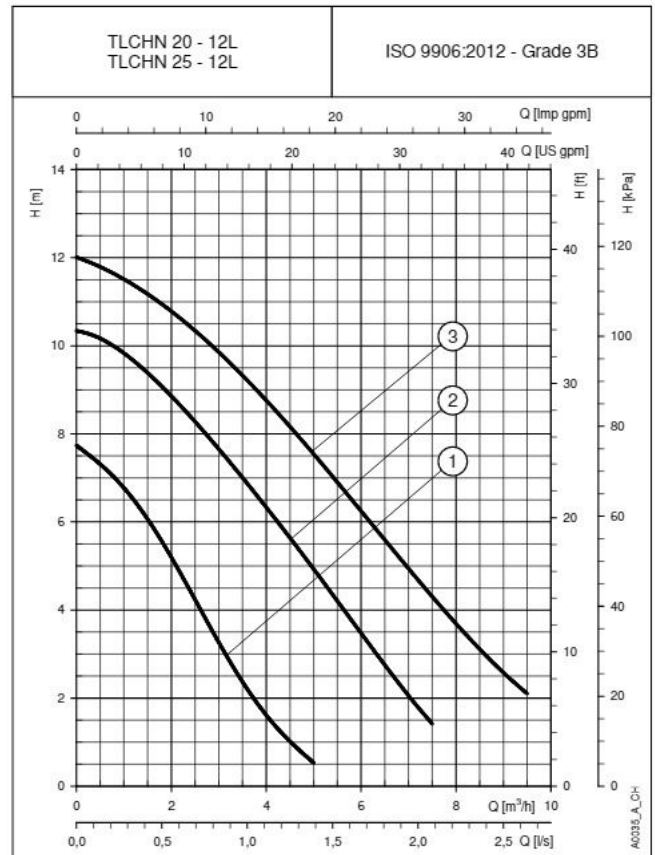
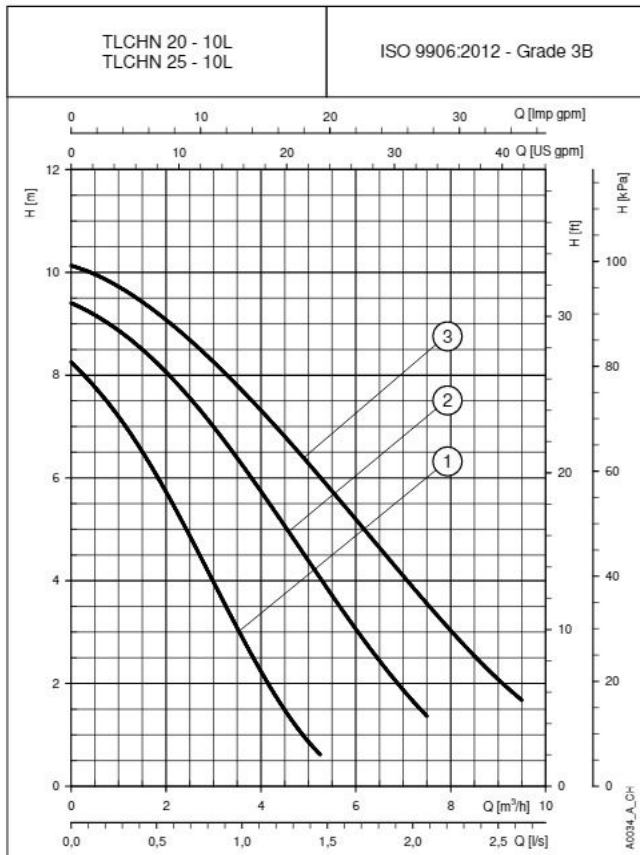
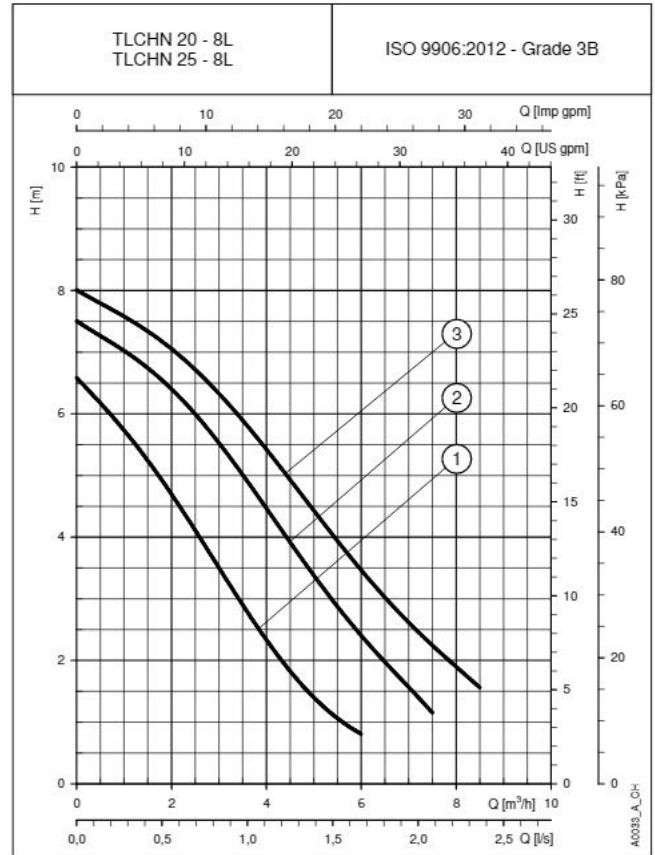
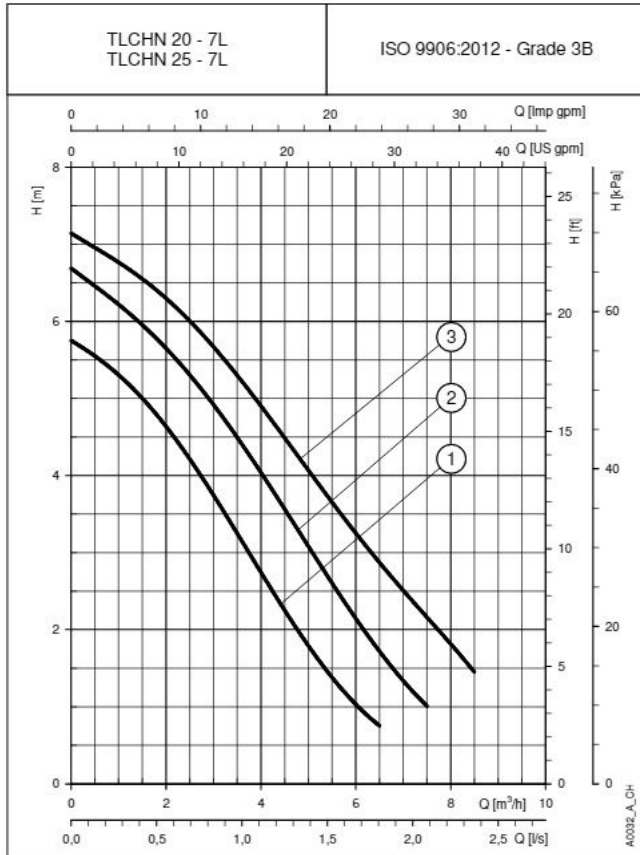
## TLCHN SERIES HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	MAXIMUM ABSORBED POWER	MAXIMUM ABSORBED CURRENT	CAPACITOR		SPEED	Q = DELIVERY								
						vs 0	0,3	0,7	1,0	1,3	1,7	2,0	2,3	2,7
230V 50Hz	W	A	$\mu$ F	V		m <sup>3</sup> /h 0	1,2	2,4	3,6	4,8	6,0	7,2	8,4	9,6
						H = TOTAL HEAD METRES COLUMN OF WATER								
TLCHN 20-7L	220	1,03	8,0	400	1	5,8	5,2	4,3	3,1	2,0	1,0			
TLCHN 25-7L	228	1,04			2	6,7	6,1	5,4	4,4	3,3	2,1	1,2		
	260	1,13			3	7,1	6,7	6,1	5,2	4,2	3,3	2,4	1,5	
TLCHN 20-8L	260	1,23	8,0	400	1	6,6	5,5	4,2	2,8	1,6	0,8			
TLCHN 25-8L	270	1,24			2	7,5	6,9	6,1	4,9	3,6	2,4	1,4		
	286	1,25			3	8,0	7,5	6,8	5,8	4,6	3,5	2,5	1,6	
TLCHN 20-10L	283	1,35	8,0	400	1	8,3	6,9	5,0	2,9	1,1				
TLCHN 25-10L	343	1,44			2	9,4	8,7	7,7	6,3	4,7	3,1	1,7		
	357	1,56			3	10,1	9,6	8,8	7,7	6,5	5,2	3,9	2,6	1,6
TLCHN 20-12L	285	1,36	8,0	400	1	7,7	6,5	4,4	2,2	0,7				
TLCHN 25-12L	372	1,69			2	10,3	9,7	8,4	6,9	5,2	3,5	1,8		
	400	1,73			3	12,0	11,4	10,4	9,2	7,8	6,2	4,7	3,2	2,0

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

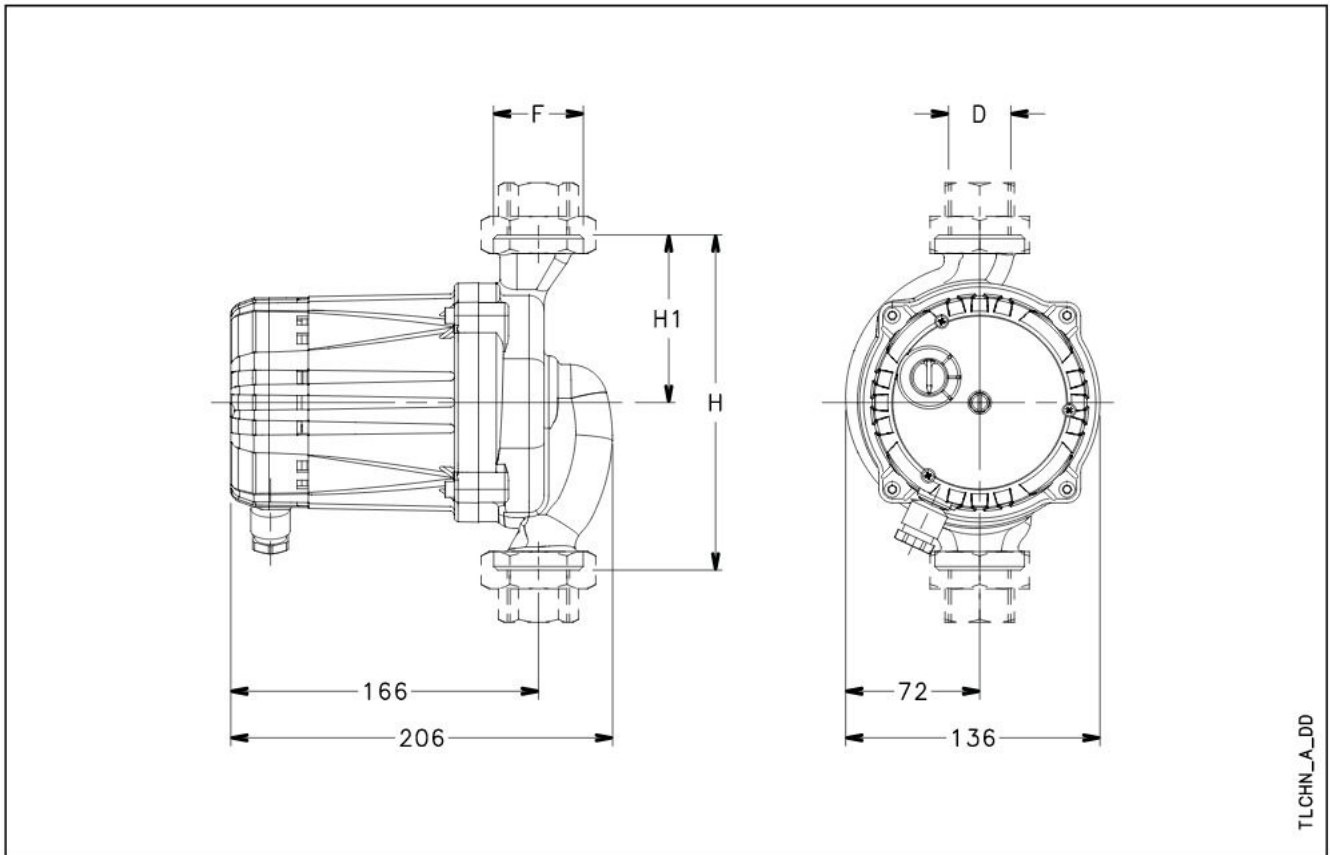
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**TLCHN SERIES**  
**SINGLE-PHASE OPERATING CHARACTERISTICS**



These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## TLCHN SERIES DIMENSIONS AND WEIGHTS



### DIMENSIONS AND WEIGHTS TABLE

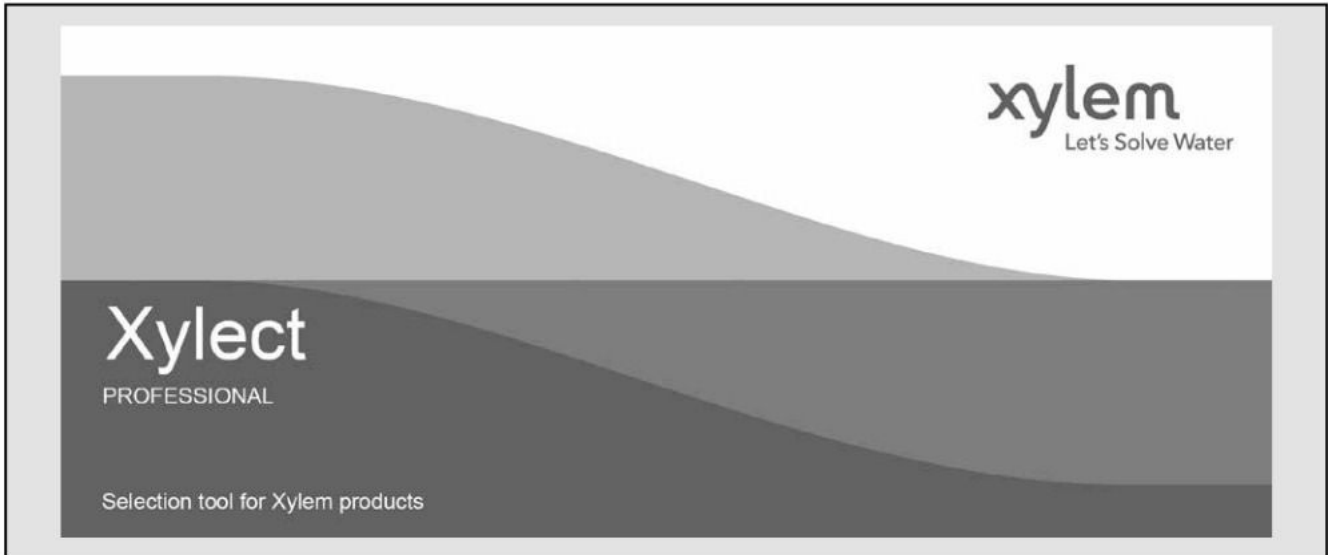
PUMP TYPE	DIMENSIONS (mm)					WEIGHT
	H	H1	D	F	DN	
TLCHN 20-7L	180	90	¾"	G 1"¼	20	6,5
TLCHN 25-7L	180	90	1"	G 1"½	25	6,5
TLCHN 20-8L	180	90	¾"	G 1"¼	20	6,5
TLCHN 25-8L	180	90	1"	G 1"½	25	6,5
TLCHN 20-10L	180	90	¾"	G 1"¼	20	6,5
TLCHN 25-10L	180	90	1"	G 1"½	25	6,5
TLCHN 20-12L	180	90	¾"	G 1"¼	20	6,5
TLCHN 25-12L	180	90	1"	G 1"½	25	6,5

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# DOCUMENTATION

**FURTHER PRODUCT SELECTION  
AND DOCUMENTATION**  
**Xylect™**



Xylect™ is pump solution selection software with an extensive online database of product information across the entire Lowara, and Vogel range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

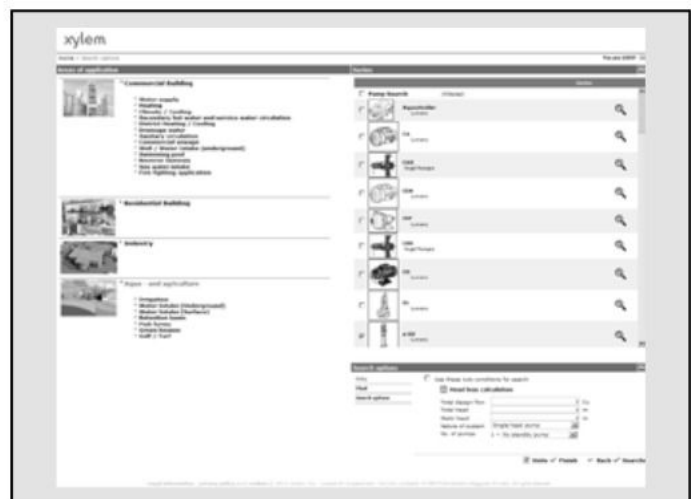
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara and Vogel products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect™ gives a detailed output:

- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



*The search by application guides users not familiar with the product range to the right choice.*



## FURTHER PRODUCT SELECTION AND DOCUMENTATION

### Xylect™

The screenshot displays the Xylem web application interface for pump selection. At the top, there is a navigation bar with 'Home', 'Search options', and 'Product configuration'. Below this is a table listing several pump models:

Product	Item no.	Stages	Discharge size	Number of DQ/Q [%]	DH/H [%]	Suction size	Relative friction [1/min]	Rated power [kW]
Lowara 33SV8/2AG185T	10157021	8	DN 65	2	-2.7 -5.4	DN 65	97	2950
Lowara 33SV8G220T	10157023	8	DN 65	2	0.2 0.4	DN 65	98	2955
Lowara 33SV9/1AG220T	10157025	9	DN 65	2	3.0 6.2	DN 65	102	2955
Lowara 33SV9/2AG220T	10157024	9	DN 65	2	1.2 2.5	DN 65	102	2955
Lowara 33SV9G0304T	10157076	9	DN 65	4	-48.7 -73.7	DN 65	102	1460

The selected model, 33SV8G220T, is shown in detail. The performance curve graph displays Head [m] vs. Flow [m³/h] with an application range indicated. Key values shown include a head of 155.7 m, efficiency of 76.2%, NPSH-values of 3.16 m, and shaft power P2 of 18.1 kW. The configuration panel on the right lists parameters such as Stages (8), Reference speed (2900 rpm), Motor manufacturer (Lowara), and Materials (Stainless steel AISI 304).

The detailed output makes it easy to select the optimal pump from the given alternatives.

The best way to work with Xylect™ is to create a personal account. This makes it possible to:

- Set own standard units
- Create and save projects
- Share projects with other Xylect™ users

Every user has a My Xylect space, where all projects are saved.

For more information about Xylect™ please contact our sales network or visit [www.xylect.com](http://www.xylect.com).

This screenshot shows a detailed view of the 33SV8G220T pump. It features a 3D isometric drawing of the pump assembly and a 2D dimensional drawing showing various measurements. The dimensions are listed as follows:

Dimension	Value
G1	313
G2	308
L1	1068
L2	494
H	240
G118 (H)	412
G112 (H)	412
G118 (H)	412
G112 (H)	412

The interface also shows the pump weight (210 kg) and various configuration options similar to the previous screenshot.

Dimensional drawings appear on the screen and can be downloaded in dxf format.





# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're approximately 12,500 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

**For more information on how Xylem can help you, go to [xylem.com](http://xylem.com).**



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